N-acetylcysteine prior to intrauterine insemination in couples with isolated athenospermia: a randomized controlled trial

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Abstract:

Objective: to compare semen parameter and pregnancy rate after treatment of couples with isolated mild athenospermia with N-acetylcysteine (NAC) or not prior to intrauterine insemination (IUI). Design: open-labeled randomized controlled trial Material and Methods: All couples presented with primary or secondary infertility to the outpatient infertility clinic a university affiliated hospital and welling to perform IUI as a part of their infertility management were approached for participation. We had included only couples with mild athenospermia (progressive motility between 10-32%) with normal other seminal criteria and normal infertility workup for a female partner. Couples were randomized to either one of two groups: NAC group (30 couples) who received 600 mg NAC for 12 weeks prior to IUI and a control group (30 patients) who did received no other medication. The results as regard the seminal quality after seminal preparation as well as chemical and clinical pregnancy rate were recorded. Results: Both treatment groups were homogenous at the time of randomization regarding the type and duration of infertility. The mean sperm count and percentage motile were homogenous at the time of recruitment. NAC group produced a significantly higher retrieved mean sperm concentration compared with the control group 36.62±9.2 versus 31.9±10.61 million per high power filed (p=0.041), respectively. The percentage of progressive sperm motility (grade A) was significantly higher in the NAC group 22.53± 11 compared with the control 18.7±7.81 (p=0.032). Clinical pregnancy encountered in 6/30(20.0%) of NAC group compared with 4/30(13.3%) of the control group (p=0.25). Conclusion: N-acetyl-cysteine treatment for two months prior to IUI in couples with isolated athenospermia improvers the seminal quality after preparation. It also improves the chemical and clinical pregnancy rate.

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